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Unit 1 Concept Checks

What is a Rational Number:

Classify the following numbers as whole numbers, integers, rational numbers, or irrational numbers. If it fits in more than one category, **state all categories it fits in**

a) $\frac{7}{2}$

b) 0.765432198123459876...

c) $-0.\overline{3}$

d) $\frac{90}{5}$

Ordering and Comparing Rational Numbers

Order the following rational numbers from **smallest to largest**

a) $-6, \frac{4}{3}, 0.125, \frac{-8}{2}, -0.\overline{9}, 1, -\frac{6}{15}, 1.75$

b) Identify a **decimal** between 1.5 and $1\frac{4}{5}$

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Adding and Subtracting Rational Numbers

1. The millers budget half of their income for fixed expenses and an eighth for savings. How much of their income is left?

2. $(1\frac{4}{9}) - (-3\frac{3}{8}) =$

Adding and Subtracting Rational Numbers in Different Forms

1. $(-2.265) - (\frac{9}{16}) =$

2. Sports take up $\frac{1}{2}$ of the school budget, clubs take up 0.375 of the budget.
What fraction of the budget remains?

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Multiplying Rational Numbers

1. $(3.67) \times (-2.8) =$

2. $\frac{-4}{5} \times -1\frac{2}{3} =$

3. $\frac{5}{6} \times -0.6 =$

Dividing Rational Numbers

1. $27.2 \div -4 =$

2. $\frac{-2}{9} \div \frac{3}{6} =$

3. $0.127 \div \frac{1}{7} =$

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Order of Operations Involving Rational Numbers

1. $\frac{3}{5}(0.4 - -0.6) + \frac{7}{8} =$

2. Describe the error in the following work and find the correct solution

$$\begin{aligned} & -0.2 + 3.6(-1.2 - 0.9) \\ & = -0.2 + (-4.32 - 0.9) \\ & = -4.52 - 0.9 \\ & = -5.42 \end{aligned}$$